

Aboriginal Plant Use Mitigation Plan 2018-2019 Annual Report

Site C Clean Energy Project

Reporting period: April 2018 through March 2019

March 29, 2019

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Table of Acronyms

BRFN	Blueberry River First Nations
DFN	Duncan's First Nation
DFO	Fisheries and Oceans Canada
DRFN	Doig River First Nation
DTFN	Dene Tha' First Nation
EAO	BC Environmental Assessment Office
FLNR	BC Ministry of Forests, Lands, Natural Resource Operations & Rural Development
FNFN	Fort Nelson First Nation
HLFN	Horse Lake First Nation
HRFN	Halfway River First Nation
KLMSS	Kelly Lake Métis Settlement Society
MLIB	McLeod Lake Indian Band
MNBC	Métis Nation British Columbia
MOTI	BC Ministry of Transportation and Infrastructure
PRFN	Prophet River First Nation
SFN	Saulteau First Nations
WMFN	West Moberly First Nations

1 Background

1.1 The Site C Clean Energy Project

The Site C Clean Energy Project (the Project) will be the third dam and generating station on the Peace River in northeast B.C. The Project will provide 1,100 megawatts of capacity and about 5,100 gigawatt hours of energy each year to the province's integrated electricity system. The Project will be a source of clean, reliable and cost-effective electricity for BC Hydro's customers for more than 100 years.

The key components of the Project are:

- an earthfill dam, approximately 1,050 metres long and 60 metres high above the riverbed;
- an 83 kilometre long reservoir that will be, on average, two to three times the width of the current river;
- a generating station with six 183 MW generating units;
- two new 500 kilovolt AC transmission lines that will connect the Project facilities to the Peace Canyon Substation, along an existing right-of-way;
- realignment of six segments of Highway 29 over a total distance of approximately 30 kilometers; and
- construction of a berm at Hudson's Hope.

The Project also includes the construction of temporary access roads, a temporary bridge across the Peace River, and worker accommodation at the dam site.

1.2 Description of Site Preparation and Construction Activities during the Reporting Period

The list below is intended to provide a high-level summary of construction activities that took place during this period; it is not a complete list of all activities undertaken:

- the main civil works contractor continued excavation on the north and south banks, work on the powerhouse roller-compacted concrete buttress and preparation for river diversion;
- clearing continued in the transmission line right-of-way and access roads continued to be upgraded;
- work continued to upgrade the Peace Canyon substation;
- work continued on the construction of the Site C substation;
- began work on construction of the highway realignment at Cache Creek West;
- geotechnical investigations of the western segments of Highway 29 (Farrell Creek, Lynx Creek and Dry Creek);
- construction of access roads and clearing continued for the reservoir area and dam site; waste wood has been removed or disposed;

- focused work on the advancement of earthworks at the dam site and the excavation of the two diversion tunnels;
- construction of the temporary conveyor belt system began; and,
- assembly and erection of 500 kV steel lattice towers along the transmission line began

More detailed descriptions of construction activities that took place during the reporting period can be found in the quarterly Notices of Construction Activities¹.

2 Objective and Scope

2.1 Objective and Scope of the Aboriginal Plant Use Mitigation Plan

The objective of the June 5, 2015 Aboriginal Plant Use Mitigation Plan (APUMP) is to fulfill the requirements of Decision Statement condition 14 and Environmental Assessment Certificate conditions 25 and 26. The APUMP outlines the approach to mitigation that will be followed during the construction phase, and as site specific opportunities are identified within the project activity zone for reclamation activities that support plants of traditional Indigenous value as well as relocation of rare plants of traditional Indigenous value. The mitigation measures related to Indigenous plant use are summarized in Volume 3, Chapter 19, Table 19.15 of the EIS and set out in [Appendix D of the APUMP](#).

The Plan covers the Project Activity Zone (PAZ) as described in the EIS and as defined in the federal Decision Statement section 1.15.

2.2 Reporting Period

This annual report summarizes the implementation of the mitigation measures described in section 4.0 of the APUMP from April 2018 through March 2019. In some cases, consultation and engagement with Indigenous groups on measures described in the Plan that took place prior to this period are also summarized here for context.

This is the fourth annual report of the APUMP.

3 Ground Truthing Activities from April 2018 through March 2019

Starting in 2014, BC Hydro initiated ground truthing programs with the purpose of engaging with Indigenous land users, including registered trapline holders, to verify and accurately locate Indigenous land use information, and to identify concerns related to specific features, or sites that may be affected by the Project. In particular, BC Hydro is seeking to verify features such as plant harvesting areas (specifically medicinal and food plants) and ecological communities that

¹ Also referred to as Construction Notification Letters, or Construction Notices. These are available on the project website along with the bi-weekly Construction Bulletins: <https://www.siteproject.com/construction-activities/construction-bulletins>

support species of high traditional plant use, the location of burial sites, and the location of cultural and habitation sites, including when and how they are used by Indigenous groups².

The APUMP describes the scope of the ground truthing program and how the information gained during ground truthing is used to inform mitigation measures related to plants of traditional Indigenous value.

Unless otherwise indicated, the communications summarized below are sent out to all Indigenous groups.

3.1 Invitations and Participation in Ground Truthing Activities

During this reporting period, BC Hydro followed up with interested Indigenous groups to either plan ground truthing activities to be carried out with BC Hydro field support, or to facilitate independent ground truthing activities. BC Hydro sent an email on June 8, 2018, and further letters on August 9th, 10th and 27th, 2018, and March 21st, 2019 to Indigenous groups that included an update on upcoming construction activities and a renewed request to review and identify any areas of interest or concern. Invitations were also communicated during meetings and correspondence with individual Indigenous groups, as well as through discussions at the Permitting Forum.

Ground truthing activities undertaken in the reporting period are summarized in Table 1, organized by Indigenous group.

For the purposes of this report, the ground truthing activities described relate to the verification of plant harvesting areas and/or plants of traditional Indigenous value³.

Due to the sensitive nature of the cultural information gained during ground truthing, BC Hydro does not provide site-specific details in publicly available reports such as this one.

Table 1: Ground Truthing Activities Undertaken

Indigenous Group	Project Component	Results
Blueberry River First Nations (BRFN)	Highway 29	Ground truthing activities took place on May 25-27, 30, 2018 and July 27, 29, 2018 within the Cache Creek highway realignment options and Cache Creek West.
Doig River First Nation	Highway 29	Ground truthing activities took place June 13-14, 2018 within the Cache Creek highway realignment options. Pre-clearing harvesting activities took place on

² Unless otherwise specified, the term Indigenous groups applies to the following “Aboriginal groups” as defined in the Environmental Assessment Certificate (EAC) and federal Decision Statement (FDS): Sauteau First Nations, West Moberly First Nations, Prophet River First Nation, Blueberry River First Nations, Doig River First Nation, McLeod Lake Indian Band, Halfway River First Nation, Fort Nelson First Nation, Horse Lake First Nation, Métis Nation British Columbia, Kelly Lake Métis Settlement Society, Duncan’s First Nation, and Dene Tha’ First Nation.

³ Ground truthing related to cultural resources is described in the Annual Report for the Cultural Resources Mitigation Plan

Indigenous Group	Project Component	Results
(DRFN)	Highway 29	February 13, 2019, along and adjacent to the Halfway River highway realignment.
Halfway River First Nation (HRFN)	Highway 29 Reservoir	Ground truthing activities took place May 25-27, 2018 within the Cache Creek highway realignment options. Ground truthing activities took place July 10-13, 2018 at various locations along the Peace River within the future reservoir.
McLeod Lake Indian Band (MLIB)	Highway 29	Ground truthing activities took place June 20, 2018 within the Cache Creek highway realignment options.
Saulteau First Nations (SFN)	Highway 29 Transmission Line	Ground truthing activities took place on June 14 and 15, 2018 within the Cache Creek high realignment options 1, 2 and 3. Ground truthing activities took place November 3 and 7-8, 2018 within the western portion of the transmission line.
Horse Lake First Nation (HLFN)	Transmission Line	Ground truthing activities took place July 21-22, 2018 within the western portion of the transmission line.

Some Indigenous groups identified areas of interest for ground truthing but were unable to schedule or conduct ground truthing during the reporting period. BC Hydro will continue to work with these groups, and remains open to scheduling ground truthing in these areas of interest that have not been cleared.

Ground truthing activities that BC Hydro was working to coordinate and schedule but were not conducted during the reporting period are described in Table 2.

Table 2: Ground Truthing Activities Coordinated but Not Undertaken

Indigenous Group	Project Component	Results
Kelly Lake Métis Settlement Society (KLMSS)	Transmission Line	BC Hydro and KLMSS made efforts to coordinate ground truthing of the transmission line on October 13, 2018. Ground truthing was cancelled due to poor weather and safety concerns. BC Hydro and KLMSS discussed ground truthing in spring of 2019, with the understanding that the transmission line is likely to be mostly cleared at that time.

Indigenous Group	Project Component	Results
Duncan's First Nation (DFN)	Highway 29	Ground truthing activities were scheduled for July 3-5 2018 within the Cache Creek highway realignment option 1; the site visit did not take place due to cancellation by DFN.

3.2 Ground Truthing Reports

In this reporting period, ground-truthing reports were received from BRFN, DRFN and HRFN related to activities conducted along the Cache Creek highway realignment options. While SFN and MLIB did not submit written reports detailing the results of the ground truthing that was undertaken, they provided those details at BC Hydro project update meetings.

Ground truthing results including final ground truthing reports are shared with relevant members of the Site C team (e.g., Environment, Transmission Line Design, Roads, Properties, Construction Management) to be incorporated into mitigation measures as described in Section 4.0 below. BC Hydro will follow up with the respective Indigenous groups to share how their information has been considered and incorporated in the Project planning and/or mitigation measures developed.

3.3 Plants of Traditional Indigenous Value Identified Through Ground Truthing

Ground truthing activities have identified a number of plants with medicinal and food values. Table 3 shows the food plants and medicinal plants that were identified as plants typically harvested by land users during ground truthing prior to 2018. New additions in this reporting period are shown in blue text.

Table 3: Plant Species with Cultural, Food, and Medicinal Value Identified Through Ground Truthing

Plant Species with Cultural, Food, and Medicinal Value Identified Through Ground Truthing		
Alder	Crowberry	Moss, Sphagnum
Alder, green	Currant, black	Mountain Ash
Alder, red	Dandelions	Mushroom, Puff Ball
Alder, mountain	Deadweed	Mushrooms
Algae	Devil's club	Onion (wild)
Arnica orchid	Dewberry	Orchid, Ladyslipper
Ash, mountain	Dogwood, Red-Osier	Parsnip (Cow's Parsnip)
Aspen, Trembling	False Solomon Seal	Peas (wild)
Baneberry	False Toad-flax	Pink Wintergreen
Bearberries (a.k.a. kinnikinnick)	Fern Spiny Root	Plantain
Beaver Ears (Wintergreen)	Fir, Balsam (Subalpine)	Poplar, Balsam
Birch, Water	Fireweed	Poplar, Black

Plant Species with Cultural, Food, and Medicinal Value Identified Through Ground Truthing		
Birch, Paper	Flat Lichen	Poplar, Silver-leaved
Black spruce	Frog Blanket (Colt's Foot)	Potentilla
Blackberries	Fungus, birch	Raspberry
Bluebell (a.k.a. lungwort)	Fungus, willow	Rat root
Blueberries	Goldenrod	Red willow
Blueberries – high-bush (mountain)	Gooseberries	Rhubarb (wild)
Buckbean	Goosegrass	Rose (wild)
Bunchberries	Hemlock (Water - Western)	Rosehips
Buttercup	Horseroot	Sage
Cabbage (wild)	Horsetail	Saskatoon berries
Cedar	Huckleberries	Silverberry
Chamomile (wild)	Indian Carrot	Soapberries
Cherry, choke	Indian Parsnip	Spruce (Black, White, Swamp)
Cherry, pin	Pine (Jack, Lodgepole)	Stinging nettle
Cinquefoil	Juniper	Strawberries (wild)
Cloudberry	Labrador tea	Swamp Currant
Clover	Lichen (Old Man's Beard, Witches Hair, Flat)	Sweetgrass
Comandra	Lily plants	Tamarack Moss
Cottonwood	Low-bush blueberries	Trapper's (muskeg) tea
Cranberries – high & low bush	Mint (wild) / Peppermint	Willow (Pacific, 'Red')
Aster	Sedges	Yarrow
Meadow rue	Snowberry	Twinflower
Sarsaparilla	Tlechuck wea?	Vetch
		Wolf willow

3.4 Identification of Rare Plant Species

The plant species of traditional Indigenous value identified through ground truthing were reviewed against the Red/Blue listed species identified by the BC Conservation Data Centre as well as species listed under the federal *Species at Risk Act*.

Of the species identified through ground truthing to date, “Rat root” (*Acorus americanus*) is the only rare plant. Rat root is a cattail-like plant that grows in ponds, streams and wetlands. It is currently Red-listed in BC by the BC Conservation Data Centre.

4 Mitigation Measures

The APUMP describes mitigation measures, and measures to be developed in consultation with Indigenous groups, that meet conditions of the EAC and FDS related to plants of traditional aboriginal value over the duration of Project construction. Moving forward, BC Hydro will continue to consider mitigation measures identified by Aboriginal groups through future ground truthing or other consultation activities.

4.1 Identification of Opportunities for Plant Relocation and Ecological Community Restoration

The CEMP describes the environmental requirements related to soil management, site restoration, and revegetation activities to be implemented by contractors. Reclamation activities for the various project components (e.g., portions of the dam site area, Highway 29 right-of-way and reservoir shoreline) will be undertaken in the period following construction.

Plant species of traditional Indigenous value identified through ongoing groundtruthing activities will be incorporated into reclamation plans, as appropriate. As draft reclamation plans are developed to address the adverse effects of the project on plants of traditional Indigenous value, they will be provided to Indigenous groups for review and comment.

4.2 Indigenous Plant Nursery

BC Hydro has entered into a contract with an Indigenous plant nursery for supply and delivery of live native grass seeds suitable for dry or hydro seed application to support re-vegetation and reclamation activities. In accordance with EAC condition 26, BC Hydro will make reasonable efforts to source plants and plant seeds of high traditional Aboriginal value from Indigenous plant nurseries for use in reclamation activities. The actual sourcing of seeds, seedlings and stakes for use in reclamation will occur after detailed reclamation planting prescriptions are developed through the development of reclamation plans.

4.3 Information Shared with Indigenous Groups

FDS condition 14.2 requires BC Hydro to inform Indigenous groups about Project activities that may affect the current use of lands and resources for traditional purposes. This condition is fulfilled through the implementation of the Aboriginal Group Communication Plan (AGCP). Please refer to the AGCP and its annual reports⁴ for more information on how BC Hydro is complying with this condition.

In addition, BC Hydro engages and shares information with Indigenous groups through regularly scheduled permitting forums, EAC working groups, or through other project and community engagement meetings. The Site C Environmental Forum also supports ongoing opportunities for discussion and information sharing for example, a wetland and rare plant focused environmental forum was held in Fort St. John on 13 November 2018.

⁴ See [note 3](#).

4.4 Use of Herbicides and Pesticides

BC Hydro consults with Indigenous Groups as required by the BC Ministry of Environment (MOE) during their review and confirmation of BC Hydro's plans. BC Hydro also engages First Nations annually when we are proposing to use herbicide on a power line corridor.

Section 4.3.2 of the APUMP describes the considerations involved in the avoidance or minimization of herbicide and pesticide use during BC Hydro's vegetation management practice. The draft plan was submitted to Indigenous groups for review and comment in October 2014. Comments received were considered in preparation of the July 5, 2015 version of the APUMP.

BC Hydro manages vegetation around facilities and transmission/distribution lines according to two Integrated Vegetation Management Plans (IVMPs); one for BC Hydro's facilities, and one for transmission line rights-of-way. These plans are available on BC Hydro's public website:

- [IVMP for Transmission and Distribution Power Line Corridors \(April 2017\)](#); Confirmation number 105-0982-16/21
- [IVMP for Control of Vegetation at BC Hydro Facilities \(August 2016\)](#); Confirmation number 105-0983-16/21

Notice of Intent to Treat

Proponents are required to submit an Annual Notice of Intent to Treat (NIT) to the Ministry each year before commencing herbicide use. [Section 42 of the Integrated Pest Management Regulation](#) stipulates what is required for an NIT; click the hyperlink to view this section of the Regulation on the 'bclaws' website.

Prior to any use of herbicides described in that year's NIT, an information package is sent to affected Indigenous groups with maps of the proposed treatment locations and details on the treatment program. The information package requests feedback from Indigenous groups in order to identify plant harvesting areas or other areas of cultural or spiritual importance for consideration in the development of treatment plans or to avoid those areas, where practicable.

The 2018 information package was sent to Indigenous groups on July 18, 2018, and Indigenous groups were invited to identify any areas of concern by August 17, 2018. The 2019 NIT was sent to Indigenous groups on March 11th, 2019 requesting the identification of any areas of concern by April 5, 2019.

4.5 Opportunities to Harvest Traditional Medicinal Materials

Various First Nations have expressed interest in being able to harvest traditional medicinal materials from certain non-merchantable tree species prior to vegetation clearing, or alternatively, to have the material stockpiled after clearing so that the medicinal materials could be harvested prior to the removal of the non-merchantable material.

In the August 27th, 2018 letter to Indigenous Groups, BC Hydro invited communities to conduct harvesting activities in areas planned for clearing in Fall 2018/Winter 2019. Indigenous groups did not take part in any harvesting activities during this reporting period.

5 Future Ground Truthing

BC Hydro is working with each interested Indigenous group directly to plan and coordinate ground truthing in the spring and summer of 2019. The following schedule of upcoming construction and clearing activities has been provided to Indigenous groups with an invitation to undertake ground-truthing opportunities in these areas if ground-truthing has not already been undertaken.

- Lynx Creek Geotechnical work – scheduled to commence April 2019
- Gates Island Geotechnical work – scheduled to commence April 2019
- Peace River Islands downstream of Halfway River (OLTC #16)
- Highway 29 Clearing along Dry Creek – scheduled to commence October to November 2019
- Eastern & Middle Reservoir Clearing – scheduled to commence

More information on these activities will be provided in the 2019 annual report.

Information received through ground truthing activities will inform the development of mitigation measures when the information is received.